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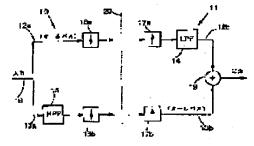
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## (54) SUB-BAND FILTERING DEVICE AND APPLICATION THEREOF

(57)Abstract:

PURPOSE: To reduce hardwares in numerous sub-band encoding systems by providing only one half-band filter in respective low and high-band passing parts, placing the filters in an opposite stage and supplying the required symmetry.

CONSTITUTION: The all-pass path 12a and high frequency path 13a of a decimation stage 10 are respectively provided with decimeters 16a and 16b in them. Similarly, a low-frequency path 12b and an allpass path 13b of an interpolation stage 11 are respectively provided with interpolators 17a and 17b in them. Then, both the paths 12a and 13a of the stage 10 are connected to common input 18 for receiving input signals, and both paths 12b and 13b of the stage 11 are connected to an adder 19 for adding signals outputted along both paths. Then, signal transmission and recording 20 are performed at a rate half the sample rate of the signals supplied to the input 18. Filters 14 and 15 are provided with odd-numbered taps, an LPF 14



and an HPF 15 are half-band filters, the HPF 15 is provided with the coefficient of the same size as the LPF 14, and the polarity of every two coefficient is alternately inverted.

## LEGAL STATUS

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